

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). A method of eliciting a secretory IgA-mediated immune response to an epitope in a mammalian subject wherein the epitope is encoded by an amino acid sequence not naturally found in the Ib domain of *Pseudomonas* exotoxin A ("PE"), comprising the step of administering to at least one mucosal surface of the subject a non-toxic *Pseudomonas* exotoxin A-like ("PE-like") chimeric immunogen comprising, as a fusion protein in sequence: (1) a cell recognition domain comprising a polypeptide that binds to a cell surface receptor on the mucosal surface; (2) a translocation domain comprising an amino acid sequence at least 90% identical to the sequence of *Pseudomonas* exotoxin A (PE) (SEQ ID NO:2) from amino acid position 280 to amino acid position 344 thereof and wherein the domain is capable of effecting effects translocation to a cell cytosol; (3) an epitope presenting domain of between 5 and 350 amino acids in length and consisting essentially of one cysteine-cysteine loop wherein the loop encodes an epitope of a pathogen and wherein the epitope is non-native to PE domain Ib and the loop encoding the pathogen replaces the cysteine-cysteine loop of domain Ib; an epitope domain comprising an amino acid sequence between about 5 and about 350 amino acids that encodes the epitope, wherein the amino acid sequence of the epitope is inserted into the Ib domain of PE, with or without deletion of native Ib amino acid sequences; and (4) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence.

Claim 2 (original). The method of claim 1, wherein the mucosal surface is selected from mouth, nose, lung, gut, vagina, colon or rectum.

Claim 3 (original). The method of claim 1, comprising administering a booster dose of the chimeric immunogen to a different mucosal surface.

Claim 4 (original). The method of claim 1 further comprising administering to the subject a booster dose of the chimeric immunogen parenterally.

Claim 5 (original). The method of claim 1, further comprising administering to the subject a booster dose of the chimeric immunogen to a mucosal surface.

Claim 6 (original). The method of claim 1, further comprising administering to the subject a booster dose of the chimeric immunogen to a mucosal surface at least one year after an initial dose.

Claim 7 (currently amended). The method of claim 1, wherein the epitope consists essentially of ~~comprises~~ a V3 loop apex of HIV-1.

Claims 8 to 11 (canceled).

12 (previously presented). The method of claim 1, wherein the epitope domain is between about 15 amino acids and about 50 amino acids in length.

13 (previously presented). The method of claim 1, wherein the epitope domain is between about 5 amino acids in length and about 15 amino acids in length.

14 (previously presented). The method of claim 1, wherein the epitope domain consists essentially of the epitope.

15 (previously presented). The method of claim 1, wherein the chimeric protein is formed in part as a fusion protein.

16 (previously presented). The method of claim 1, wherein the cell recognition domain comprises a single chain Fv fragment.

17 (previously presented). The method of claim 1, wherein the cell recognition domain binds the α -macroglobulin receptor, the IL-2 receptor, the IL-6 receptor, the human transferrin receptor or gp120.

18 (previously presented). The method of claim 1, wherein the epitope is an epitope of HIV-1.

19 (withdrawn). The method of claim 1, wherein the epitope is an epitope of herpes, vaccinia, cytomegalovirus, yersinia, or vibrio.

20 (previously presented). The method of claim 1, wherein the epitope is an epitope of a pathogen.

21 (previously presented). The method of claim 1, wherein the epitope domain is between about 15 and 350 amino acids long.

22 (previously presented). The method of claim 1, wherein the translocation domain comprises an amino acid sequence at least 95% identical to the sequence of *Pseudomonas* exotoxin A (PE) (SEQ ID NO:2) from amino acid position 280 to amino acid position 344 thereof.

23 (previously presented). The method of claim 1, wherein the epitope exists within a cysteine-cysteine loop of a pathogen which replaces the Ib cysteine-cysteine loop of PE.

24 (previously presented). The method of claim 1, wherein the cell surface receptor is a receptor on the surface of an epithelial cell.

25 (previously presented). The method of claim 20, wherein the pathogen is a virus or protozoan.

26 (withdrawn). The method of claim 20, wherein the pathogen is selected from herpes zoster, influenza, polio, hepatitis, tuberculosis, *Chlamydia*, *Salmonella*, *Trypanosoma*, and *Plasmodium*.

27 (withdrawn). The method of claim 1, wherein the chimeric immunogen comprises domain I of PE, domain II of PE, the epitope domain, and a detoxified domain III of PE.